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THE MEANING OF ENGLISH BIRD-NAMES.*

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So much has been written about the meaning of the English names of flowers, that it is strange how those of our birds have been neglected. Much information can be got scattered about in general ornithological literature, or found in various dictionaries, but it does not seem that anyone has taken up the subject in its entirety.

Of the names of British birds, as they appear in the ordinary standard books, I find there are about one hundred and sixty; of these there are certainly not much more than a dozen of which some account cannot be given. Of course, if all the known provincial names were also taken—as is, I believe, about to be done for the English Dialect Society—this number would probably be increased tenfold; and the difficulties might increase with the numbers.

At present I do not wish to rival the dictionary-maker, but merely to show the meaning—more often poetical, perhaps, than in the case of flowers—of the names we commonly apply to British birds; I shall take no account of those of which no satisfactory explanation can be found.

The names of birds seem to have originated in three different ways; some may be called onomatopœic or imitative, expressing the characteristic notes which the birds emit; others are taken from peculiarities of colouring or appearance; and the largest class is of those names which refer to peculiar habits, and these seem to be the oldest, for they are often so modified from their original form that it is difficult to find out their hidden meaning. But there are others which are quaintly named from some human attribute or sympathy, or bear some mythological reference; one bird, the Pheasant, is named after the place whence it seems to have been first brought—from the river Phasis, in Colchis, a province of Asia east of the Black Sea, now known as Mingrelia. There is yet another category, which includes names we can trace directly to Latin or Greek, although often we can go no further.

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To begin with those which are imitative, though not all strictly onomatopœic, we have some which so plainly indicate the note they describe that they require no explanation; these are, to take them in alphabetical order, Chat, such as Woodchat, Whinchat, Stonechat, &c.; Chiffchaff, Crake, Cuckoo, Curlew, Kittiwake, Peewit (in French *Dix-huit*), Pipit, Skua, and Twite. There can be no question about them, for one who knows them in their natural haunts. But it is not so obvious that Bittern comes from the bird's drumming note or "booming," though there is little doubt about the fact. The names Chough, Crow, Raven, and Rook, all seem to denote the hoarse cries emitted by the Corvine birds. Cirl Bunting has long concealed its origin, but it seems clear that it comes to us from the Italian name *zirolo*, and is connected with *zirlare*, to cry *zi-zi*. Egret and Heron, for all their dissimilarity, are really the same words; both come from the old High German *hiegro*, a heron, which Prof. Skeat thinks refers to its harsh voice. *Hiegro* became in French *aigre*, of which the diminutive is *aigrette*, our Egret; *hiegro* also became in Low Latin *aigro*, and (in the tenth century) *airo*, whence the modern French *héron*, our Heron. Heronshaw means a young Heron, being corrupted from the French *héronceau*, as is proved by the northern form Heronsew; but Heronshaw, meaning a heronry, is a "shaw" or wood where Herons build. Finch, like the provincial Pink and Spink, is probably connected with "spangle," and the Lettish *spingeti*, to glitter; it means not so much the "bright" as the "clear-voiced" bird; from the same root we have, in Greek, φέγγος, light, and φθέγγομαι, I speak. Hoopoe is cognate with the *upupa;* those who have had the good fortune to hear its note say that it is even sweeter than the Cuckoo's; the French word *huppe* came to mean a tuft of feathers, from the Hoopoe's tufted head. Owl is the bird that "howls": dropping h's is a habit as old as language itself. Quail was in Dutch *quackel,* i. e. the bird that "quacks"; the present form comes from the French *caille*, in old French *quaille*, Italian *quaglia*, from the Low Latin *quaquila*. Rail is the bird that "rattles"; in old Dutch *rallen* was short for *ratelen,* to rattle; the French *râle* means a rattle as well as a rail. Shrike is the bird that "shrieks." Siskin is akin to the Dutch *sissen,* to hiss or twitter. Turtle, from the Latin *turtur*, through its French diminutive *tourterelle*, is the bird that cries *tur-tur*. Whooper is expressive of the Wild Swan's loud and trumpet-like notes.

In my next category, where names of birds are derived from their appearance, many sufficiently explain themselves, such as Blackbird, Blackcap, Bluethroat, Crossbill, Firecrest, Goldcrest, Goldfinch, Golden-eye, Greenfinch, Greenshank, Grosbeak, Pintail, Razorbill, Redbreast, Redpoll, Redshank, Redstart (where -start is the Anglo-Saxon *steort*, a tail), Redwing, Stilt, Waxwing, Whitethroat, Wryneck, and Yellowshank. In others, however, the meaning is considerably obscured, either by the successive changes through which the name has passed during its development from the primitive form, or from cognate words having dropped out of use. Avocet is in Italian *avocetta;* Prof. Skeat, to whom I am indebted for many valuable suggestions, finds that in Spanish the Wigeon is called *avucasta*, and this he connects with our word "avocet"; perhaps the delicate appearance and purely contrasted plumage of the bird may have gained it the name of *avis casta*, the "chaste bird." Avocet, Bustard, and Ostrich are thus all compounds of the Latin *avis*, a bird, notwithstanding their dissimilarity: *avis casta*, *avis tarda*, and *avis struthio* having been the original forms. Brent is probably "burnt" goose, from its generally charred appearance. Coot is the "bob-tailed hen"; it is in Welsh *cwtiar*, from *cwta*, short, bob-tailed, and *iar*, a hen; so that coot is cognate with "cut." Cormorant is from *corvus marinus*, the "sea crow"; the Portuguese call it *corvo-marinho*, but our word may be confused with the Latin *corvus*, a crow, and the Breton name for the Cormorant, *morvran*, from *mor*, the sea and *bran*, a crow. Dunlin is the "little dun bird." Falcon is the bird with "hooked" claws, from the same stem as the Latin *falx*, a sickle. Grebe is akin to the Breton word *krib*, a comb, and *kriben*, a tuft of feathers on a bird's head. Grouse is probably akin to the French *griesche*, gray, speckled; Prof. Skeat thinks it is a false form evolved form *grice*, as if that had been taken to be the plural, like "mouse," "mice." Hemipode is obviously "half-footed," from the Greek, because the hind-toe is wanting. Jay is the "gay" bird, from its gay plumage and chattering ways; "gay" originally meant "full of go." Oriole is from the Latin *aureolus*, the "golden" bird; the French *loriot* was formerly *l'oriol*, the article having become agglutinated, just as "newt" is "an ewt" or "an eft." Phalarope means "coot-footed," from the Greek φαλᾱρίς, a coot, and ϖούς, a foot, on account of its feet being similarly lobed, not fully webbed. Puffin is from the "puffed out" appearance of its beak. Ruff is ordinarily said to allude to the "ruffle" of feathers round the neck of the male in the breeding-season; but as the female is called a Reeve, Prof. Skeat thinks that the name comes from some different source, indicated by the vowel-change. Serin is French, from the Latin *citrĭnus*, "citron-coloured." Shag means rough hair, probably in allusion to its crest. Sheldrake is the "variegated" or "spotted" drake, either because it is ornamented with "shields" of colour, or from its being "tortoise-shelled," marked like tortoise-shell, as it certainly is, like a "tortoise-shell cat." Stint is the little or "stunted" sandpiper. Stork is probably from its stalking on "stalks" or lengthened legs. Tit is literally "something small," and not onomatopœic. Tit-lark is consequently the "small lark." Titmouse is compounded of "tit" and the Anglo-Saxon *máse*, which means various small birds: "mouse" comes from a totally different root, and means "the stealing animal"; so that the plural of "titmouse" should be "titmouses," not "titmice."

Names descriptive of habits are very numerous. The meaning of many is sufficiently obvious, such as Brambling or Bramble-finch, Chaffinch, Courser, Creeper, Dabchick, Dipper, Diver, Fieldfare (the bird that "fares" or travels in the fields, as in "thoroughfare"), Goatsucker (from a superstition which certainly did not originate from actual observation), Hawfinch (where "haw" is a hedge, "hawthorn" being "hedgethorn"), Moorhen, Nightjar, Nutcracker, Nuthatch, Oystercatcher, Sanderling (the little dweller on the sands), Sandpiper, Sand Grouse, Shearwater, Shoveller, Swift, Turnstone, Wagtail, Whinchat, Stonechat and Woodchat, Windhover, Woodcock and Woodpecker. Bullfinch is probably connected with the French name *bouvreuil*, which is from the Latin *bovariolus*, diminutive of *bovarius*, "the little neatherd"; just as the Wagtail is in French *bergeronette*, "the little shepherdess"; the idea of "bull" here meaning anything "big" is as unlikely as it is in "bulrush." Dotterel is the bird that "dotes," the "little stupid," from the ease with which it is deceived and caught; in Icelandic *dotta* is to nod with sleep. Dove is the bird that "dives" through the air; a strangely parallel instance is the fact that the Latin *columba*, a dove, is akin to the Greek κολυμβίς, a diver. Duck is the bird that "ducks" or dives its head under water. But Drake is an altogether different word; it is contracted from *ened-rake* or *end-rake*, a masculine form of the Anglo-Saxon *ened*, a duck. In Swedish, *and* is a duck, and *anddrake* is a drake; in German, *ente* is a duck, *enterich*, a drake; the first part of the word being from the stem of the Latin *anas* (*anat-*), a duck, and the suffix is allied to the Gothic *reiks*, ruling, mighty, and to *-ric* in "bishop-ric." So that Drake means "duck-king." Fulmar is akin to "foumart," a polecat, which is from "foul" and "marten"; in Danish the Marten is *maar*. Gadwall is the bird that "gads" or moves about "well." Godwit is "good wight" or good creature. Goshawk is the hawk that was flown at geese. Grey Lag has been explained by Prof. Skeat ('Ibis,' 1870, p. 301) as the Grey Goose that "lagged" behind to breed—as they did formerly—while the other wild species migrated northwards; "lag" meaning late, last, slow, as in "laggard," a loiterer; a "lag-clock" is one that is behind time. Gyrfalcon is probably the falcon that "flies in gyres," but the history of the name is unsatisfactory; Dr. Coues has lately connected it with *Hiero-falco*, the "sacred falcon,"—though that now called the Sacer or Saker is a different species; but guessing in etymology is a fatal method, for all its fascination. Hen Harrier is the hawk that "harries" or kills hens, so that the name is no reason for calling the male the Ringtail, descriptive though it is. Hawk is probably the "seizer," and allied to "have"; the word "havoc," destruction, is derived from hawk, and to "cry havoc" merely meant "ware the hawk." Hobby is the hawk that "hops" about. Kingfisher is the "king of fishers" or the "fisher for a king"; in France it is dedicated to St. Martin,

martin-pécheur, perhaps with a similar idea of worthiness. Kite is allied to the Breton *cud*, velocity, and *cudio*, to hover; Cowper speaks of—

> "Kites that swim sublime
> In still repeated circles, screaming loud."

The provincial name Glede means the bird that "glides." Knot is a corruption of Canute, probably in reference to the story of that king's well-known rebuke to his courtiers, from the bird's running along the beach at the edge of the waves. Lapwing has nothing to do with either "flap" or "wing"; it means "one who turns about in running," from the Anglo-Saxon *hleáp-an*, to leap or run, and *wince*, one who turns, akin to "winch" and "wag." Linnet is the bird that feeds on lin- or flax-seed, from the French *linotte*. Loon is from the same root as "lame," in allusion to the awkward gait of divers when on land. Mavis is the bird that "destroys the vine," from the French *mauvis*, formerly *malvis*, in mediæval Latin *malvitius*, from *malum vitis;* in provincial French it is *vendange*, the vintage-bird, and in German *weingartsvogel*, the vineyard-bird. Merganser is compounded of the Latin *mergus* and *anser*, the "diving goose." Merlin is the hawk that hunts "merles" or blackbirds. Missel-thrush is from its feeding on mistletoe-berries; in Anglo-Saxon *mistel* was used alone in the sense of mistletoe, so that Missel-thrush is rather a variant from, than an abbreviation of, Mistletoe-thrush, its name in many counties. Nightingale is the bird that "sings in the night"; the syllable—*in*—is a case-ending to "night," the *n* being intrusive, as "passenger" is in French *passager;* the Anglo-Saxon *galan*, to sing, is akin to "yell." Noddy means a "simpleton," one who "nods," *i. e.* goes to sleep. Ortolan is the "garden-bird," from the Latin *hortus*, a garden. Osprey is corrupted from Ossifrage, the "bone-breaker." Peregrine is the falcon that was taken on migration, "passage-hawk." Plover is from the French *pluvier*, because, it is said, it only reaches France in the "rainy" season. Pochard is the bird that "poaches," that is, treads into the mire, as cattle do. Scaup is a northern word for a bed of shell-fish, on which this duck feeds. Scoter is the "shooter" or diver. Snipe is the "snapper," allied to the old Dutch *schnebbe*, the beak, as the "nib" of a pen is allied to "snap." Sparrow is the "wanton bird," from a root meaning "to swell." Stockdove is the dove that breeds in the "stocks" or trunks of trees, not among the branches. Swallow is the "tosser," or mover to and fro in its flight, like the "swell" of the sea; it is not from the same root as the verb "to swallow." Teal is from the root of "till," like the Dutch *telen*, to breed, cultivate; *teling* is Dutch for a generation, production, as well as for the bird; Prof. Skeat says "the original sense was merely 'a brood' or 'a flock,' and its use as a specific form was accidental; we still use 'teal' as a plural form;" similarly "bird" is "broodling." Vulture is the "tearer," from the root of the Latin *vul-si*, I plucked, tore.

Names of birds that bear some reference to man are a little hard to explain. Colin, the little quail from Virginia, is nicknamed after a French pet form of Nicholas. Guillemot is from the French Guillaume, as the provincial name Willock is from William. In Mag-pie, Mag is short for Maggie, a familiar form of Margaret, like the French *Margot*, which also means a Magpie. In France a Magpie is generally called *Jacques*, and *jacasser* is to chatter like a Magpie. We have the same in Jack-daw, and probably in Jack-snipe also. Martin is named after St. Martin. French abounds with such names; *e. g.* Sansonnet, a Starling, is a diminutive from Sanson, for Samson; Jacquot is a parrakeet; Parrot and Parrakeet (French *perroquet*) are both from Pierre, Peter, just as our Petrel is, though there it is in allusion to its walking, like St. Peter, on the waves. Sailors call petrels Mother Carey's chickens, which is said to be corrupted from the Portuguese *madre cara*, the French *oiseaux de Notre Dame*. Shakspere ('King John,' i. 231) calls the Sparrow Philip, and the name is at least as old as Chaucer; the French call it *Pierrot*, little Peter. Our Robin is the pet form of Robert; just as we talk of the Tomtit, and the Jenny or Kitty Wren. Prof. Skeat says Lark means "worker of craft," and thinks the name points to some superstition which regarded the bird as of ill omen.

My last category contains names of birds which we have inherited from the Romans or Greeks. Buzzard comes through the French *buse*, from the Latin *buteo*. Bustard is a corruption of *avis tarda*, but it is improbable that *tarda* here means "slow," for Pliny quotes it as the Spanish name, so it is likely to be Celtic originally. Crane is a widely disseminated form of the Greek γέρανος; its Welsh name *garan* refers to its "shanks," akin to the English "garter." Eagle is the Latin *aquila*, through the French *aigle*. Gannet is akin to Gander, and likewise to the root of the German *gans*, Latin *anser*, Greek χήν. Kestrel has been ingeniously traced by Prof. Skeat,* he kindly informs me in a recent letter, to the Latin for a Teal, *querquedula*; this became in old French *quercelle*, now *cercelle* or *sarcelle*; its diminutive *quercerelle* easily became contracted to *kerc'relle*, and thence became *kestrel*; the French *cresserelle* is obviously corrupted from *cercerelle*. Merle, a Blackbird, is the French form of the Latin *merula*. Partridge is from the Greek πέρδιξ, through the French *perdrix*; in middle English it was *pertriche*. Pigeon is the French *pigeon*, from the Latin *pipio*, a young chirping bird of no particular species. I have lately shown ('Zoologist,' 1882, p. 110) that Wigeon is similarly formed from *vipio*, a name used by Pliny, so that the spelling "widgeon" is clearly wrong. Thrush, and its diminutive Throstle, are allied to the Latin *turdus*.

The remaining English bird-names can most of them be traced back to Celtic or Teutonic sources, but their meaning is either unknown or uncertain, so that it is inexpedient to endeavour to explain them now. On an occasion such as this I would not willingly detract from the pleasure of anyone who may come after me, by going outside what may reasonably be regarded as ascertained etymological facts. I have only made a collection of derivations, on which I hope to see a stately structure rise that shall show to future ornithologists the depth of the meaning of English bird-names.

ON THE TREATMENT OF SNAKES IN CAPTIVITY.

By Arthur Stradling, C.M.Z.S.

The study of reptiles "at home"—of their nature, habits, peculiarities, mode of life, of everything, in fact, beyond their mere anatomical characteristics—seems to have been deferred until the entire animal creation, exclusive of the unpopular Class, should have received the attention of practical naturalists. Pet fish were recognised attractions in ornamental garden-ponds and greenhouse-tanks a hundred years ago, and until a comparatively recent date the word "aquarium" suggested the idea of crystal prisons for gold and silver carp, adapted to the hall-table or conservatory, rather than that of mammoth music-saloons. Bees have been "kept" for pleasure and profit, saccharine and scientific, from time immemorial; the ant has been honoured with a long line of distinguished observers, from Solomon to Sir John Lubbock; while wasps, worms, spiders, beetles, and fleas have all in turn been commended to public notice by learned men. Moreover, the allusions to many of these creatures in ancient aphorisms betrays a close acquaintance with their manners and customs, such as could only be gained by watchful curiosity. But with regard to reptiles—snakes in particular—it must be confessed that all proverbial philosophy which has come down to us concerning them is nothing more or less than an epitome of the gross and common errors which still hold their ground. Even in the days when the wondrous chain of animated Nature was being patiently and laboriously followed out, link by link, by those earnest minds who may be said to have founded our system of Zoology, for a man to have done anything with a snake except kill it would have pointed irrefragably to demoniacal possession, and the luckless conservator might very likely have incurred the penalties awarded to those who practised the black art. We do not burn ophiologists now, certainly; and a person may even have living serpents in his house without being considered mad or morbidly desirous of a reputation for eccentricity, as he would have been not long ago. And further, captive snakes are now preserved for higher purposes than to be stared at as monsters, and too often teased or tortured to death.

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* *Cf.* 'The Academy,' Oct. 7, 1882, p. 262.

The study of Natural History in all its branches, from Entozoa to elephants, is increasing in popularity yearly among all classes; almost every provincial town has its "Society" or "Field Club"; the number of special publications multiply, while a great many general periodicals devote a column or page to the subject in every issue; and it is gratifying to note the prominence given to it in magazines for the young, especially boys' papers. A higher degree of intelligence than they were formerly accredited with is now acknowledged in most animals, and wins a new interest for them. We become reconciled to them, diverted by them, fond of them, amazed at them! Above all, the teaching of the present day inculcates the perception of the grand laws of order and progression in creation; that not only are all animals related to one another by gradual yet distinctly traceable degrees, insomuch that had any tribe—even the snakes—been blotted out we should still know what it was by the shape of the blank it would leave, like a piece missing out of a child's puzzle; that not only does this connection exist between the beings themselves, smooth and harmonious from man downwards, but that their incidental and collateral conditions are analogous—their physiology and pathology, the microscopical characteristics and functions of their allied tissues, their chemical and therapeutical reactions; and this leads to the recognition of the fact that every discovery made, every new peculiarity noted, however trivial apparently, may at a future date have some important bearing upon *ourselves*.

Many people are now beginning to keep reptiles. Various popular and scientific journals have ventilated this department somewhat of late years; but it is a field little explored as yet, and perhaps presents more opportunities to the inquirer than any other. Indeed, the very superstitions which hover about the subject—as of a serpent's licking its prey, its power of "fascination," the "antipathies" between it and other animals, "charming," &c.—are scarcely dispelled; and when such a point as the allegation of a Viper swallowing its young is still in dispute among scientists, it may be imagined there is a great deal to be learnt without the pursuit of any very recondite investigations. The Viper is one of the commonest and most widely diffused of European snakes, and if the act in question be performed at all it must be big and patent enough to strike the most casual of observers; yet definite testimony on that head might make a man's mark in the annals of Herpetology.

It is extraordinary that ground so fertile of results should have been neglected as much as it has. True, these creatures cannot be studied in their wild state, as birds can, but they are far less unnaturally circumstanced in confinement than bird, beast, or fish must be. A snake's behaviour in a cage of proper size, with attention to proper details, is probably more nearly assimilated to its habits in a state of freedom than that of any other animal. Nor are these details which require attention complicated or difficult of execution, as I shall hope to show, for when once started fairly a snake is the easiest thing in the world to "keep going." And to facilities for observation must be added the urgent *necessity* of observation in this section of Natural History. Serpents demand examination of the living specimen for accurate knowledge more than any other class of animals, yet in all probability, no other has been so little studied in this way. They change very rapidly and to a very great extent after death, and there is no known method of preserving them which will properly exhibit their characteristics. The fact of their colour fading, as it invariably does, whether the bodies be dried or embalmed in spirit—startling transformations moreover occurring in some cases, as from deep green to pale blue, and from crimson to white—is of the least importance, since coloration is taken but little into account in their classification, and is, indeed, becoming less and less a matter of consideration every day in the categorical subdivision of all creatures. The wonder is, not that ophiological tabulation should be imperfect and subject to enormous variations among different authorities, but that we should have a classification at all, and that it should be as good as it is. The difficulties in the way are immense, and works like those of Drs. Gray and Günther are simply miracles of patience. When people abroad see a live snake they rush upon it and batter it to death with sticks and stones, as though every inch of it possessed a separate and fifty-feline power of life calling for special destruction; then they pick up what is left of it, and, after an uncertain interval of time, very often in the broiling midday heat of the tropics, put it into a bottle of cachasse, canha, aguadiente, or some other coarse spirit which disintegrates its actual structure, label it with a wrong name, and send it home. Such, in the case of many species, have been the *only* materials that naturalists have had to work upon.

I met with striking illustrations of this in the South-American Thauatophidia. The snakes of India, Australia, South Africa, Europe, and the United States have all been more or less noted by competent observers in their habitat, while the descriptions of those found in South and Central America are based chiefly upon bottled specimens. In many instances they could scarcely be recognised, so hard was it to reconcile the verbal portrait with its living presentment. The number of individuals of any species, or from any country, which have been maintained alive in menageries, is comparatively so small that they cannot be taken into account in this connection.

If, then, our present acquaintance with their mere physical attributes is so far from complete, is it any marvel that we know next to nothing of their habits and propensities? And is it not justifiable to declare that we know next to nothing, when we are in ignorance with regard to hundreds of snakes as to whether they kill their prey by the grand distinctive process of constriction or by common biting; and (with a few exceptions) cannot say which species are oviparous, and which produce living young?

Practical personal observation—neither accepting nor rejecting the thousand and one items of current miscellaneous opinion concerning them until we have seen with our own eyes, in constant familiar *intercourse* with them, sufficient to form conclusions for ourselves—is the only way to gain information on these matters which can be of any value. The extent to which mere hearsay testimony has been transmitted from writer to writer on this topic is remarkable. When the venomous Lizard (*Heloderma horridum*) arrived at the Zoological Gardens and caused a great sensation among both scientists and sight-seers, I happened to meet a friend who was compiling notes for a paper on the subject in the Reading Room at the British Museum. He was almost walled-up alive by "authorities," ancient and modern; huge tomes in Latin, French, Spanish, German and English; some bound in antique boards, with yellowed leaves and old-world type, others glossy-backed and crisp from the press, were piled high about him; from these he was carefully and laboriously extracting long quotations. But how many of these writers, I asked, have been to Mexico and studied the creature on its own ground? how many, even of those who have been there, have seen a live Heloderme? Not one, as far as we could discover. Very well, then, upon what does their authority rest? upon the traditions and legends of the Indians who worship the creature as an incarnation of their evil deity, and seek to propitiate it with *tortillas* and silver beads! Possibly, of course, the evidence they might furnish might be correct in certain particulars—though it may be laid down, as a broad general rule, that for pure unadulterated superstition, utterly devoid of any groundwork of fact or reason concerning a reptile, you must go to the natives of the country which it inhabits; but, obviously, the school-boy who pays his sixpence to go to the Zoo, and stares at the Lizard as it waddles round its cage behind a pane of glass, is better qualified to write about those details which lie beyond the pale of its anatomy.

For the subject itself I offer no apology, since no literature bearing upon it exists at present. That I have not waited for abler pens than mine to introduce it, I plead in self-excuse that I am acting in compliance with a number of letters—some from this country, some from the Continent, and some from America—which I have received during the last twelve months, requesting me to publish the results of an experience in snake-keeping which has extended over a good many years. And it has been pleasant to detect a genuine spirit of inquiry in the tone of most of these letters, an indication that the serpents are kept and watched as something more than playthings—not at all inconsistent with their being regarded as pets; the very difficulties complained of evince a degree of close observation under more or less unfavourable conditions on the part of the writers, and show that they have already gleaned much that no book can teach them. The references made to the reptiles, too, suggest that the standard works have been diligently read. Everybody in England, for instance, mentions the *Coronella lævis* with confidence—a snake which is commonly (and excusably) mistaken for the adder, and which was not recognised as belonging to the British fauna until a comparatively recent period. The frequent inquiries about these matters which appear in the correspondence columns of all sorts of journals and magazines have also weighed with me as an inducement to bring the topic forward.

I purpose to deal with practical points only, and to keep strictly within such limits as are defined by the heading—the care and management of live snakes. The object af these papers is not to teach Ophiology, but to point out the simplest and most direct methods by which the student may avail himself of that royal road to knowledge, the book of Nature. I offer him the epitomized outcome of many successes and more failures, most of which have been of necessity the result of mere experiment, that he may be spared the delay and vexation of similar experiment, and that he may commence at the stand-point which I have reached at this time of writing. I set down only the plain, dry details of my experience; but should that experience not coincide with the conclusions at which he may arrive in the future, I would beg him to remember that I have the advantage of no observations but my own, and that I tender them simply for what they are—as records rather than rules. The great curse of science, the grasping at finite inferences on insufficient data, has been exemplified in none of its branches to a more disastrous extent than in Ophiology. When we reflect on the variable character of serpents and nearly everything connected with them, it would seem as though especial care should be taken in guarding against convictions based on anything but the most abundant evidence, where questions concerning them are involved; yet scientific men have promulgated their hypotheses as proven facts on the strength of isolated cases, and great travellers who have been famous for their erudition in other departments of Natural History have given the weight of their names to vulgar rumours which have been reported to them of things ophidian. Better, far better, to fall back upon the veriest superstition and folk-lore than to find ourselves on ground which is beset with pitfalls of error like these beneath its seeming solidity. I would counsel the student to peruse any and all books on the subject that come in his way, only warning him not to be surprised if his practical investigations compel him to unlearn many things afterwards which he may have taken for granted.

I shall avoid all technicalities, as far as possible; but in advising the amateur what snakes to keep in the different kinds of cage, which are easiest to procure, and which are most readily maintained under various conditions, I fear I must use the scientific names for them, instead of their local vernaculars—partly because I don't know the latter, in most instances, and partly because it would be of very little assistance to him in obtaining them if I did. All over the world we find such titles as "death," "night," or "fire-adder;" "rat-snakes," "chicken-snakes," "grass," "sand" and "water-snakes;" "deaf," "blind," "green," "brown" and "black" snakes; "ringed," "striped," "spotted," "tiger," "leopard," "milk," "silver," "coral," "harlequin" and "carpet" snakes—some or all of these. To attempt to reduce the popular nomenclature of reptiles to anything like systematic order is to make confusion worse confounded. Go to any country, and learn the common name of a snake. You will find that not only may that name be purely local and confined to a certain district, so that the creature may assume half a dozen *aliases* as you proceed, but that in all probability the same word is applied to half a dozen other snakes as well. Even here, where we have practically, one may say, but two ophidians, we hear of the black adder, grey adder, deaf adder, red adder, grass snake, ringed snake, long-cripple, hedge snake, viper, common snake, water-snake, &c., and should not feel at all certain which of the two was indicated on hearing any of these names mentioned, except by those who have made snakes their study. In Wales, terrible stories are told of the malignant disposition and fearful virulence of the Neidr Ddefaid, the "sheep-snake"; one can conceive the anxious solicitude of a collector on tour in the Principality to secure a specimen, and his unmitigated disgust when his efforts are rewarded by a common Slow-worm, such being the nature of the unpronounceable impostor. Every country, too, has its pet bug-bear among serpents, which overwhelms all distinctions, and causes the Hindu to see a Naja, the Brazilian a Jarraracca, the Indian of the Isthmus a Toboba, and the American backwoodsman a Copperhead, in every creeping thing unblessed with four legs. Casual perplexities exist in addition, to further complicate matters. "Cobra," for example, will convey a well-known limited significance to the minds of most people, without the appended "di capello." But "cobra" is simply the Portuguese term for snake—any snake; and in all lands where that language is or has been spoken, it retains that meaning, to the great bewilderment of those who hear it for the first time thousands of miles away from the habitat of *Naia tripudians*.

A glance at the labels in the Reptilium at Regent's Park will render this difficulty apparent. The commoner snakes have colloquial titles it is true—boa, python (identical with the genus), rattlesnake, anaconda, moccassin (applied to both innocent and venomous species in the States), and one or two others, none of which would help the collector in the parts of the world from which they hail; but the majority are despairingly christened with the literal translation of their specific designations, "spotted-headed," "black and yellow." "seven-banded," "ornamented," "annulated," "fugitive," "Clifford's," "Dahl's," "Merrem's," and so forth; names not always so descriptive as one could wish. I shall therefore give the genus and species when I have to mention any snake; and since every one has even a greater number of disguises in Latin than in the vernacular, I will quote the authority for the nomenclature in each case, so that the reader may consult that authority for a picture or description of the snake, if he wishes, but I shall endeavour to select the classification under which it will most likely be found in menageries, museums, and the catalogues of dealers.

I am glad to know that many lovers of the Ophidia are pursuing their studies in the Tropics, where they will have grand opportunities of rendering important service to Science. Having lived much in tropical countries myself, I may premise that all the advice here tendered is addressed equally to them, except the items which relate to the application of artificial heat.

(To be continued.)

ORNITHOLOGICAL NOTES FROM DEVON AND CORNWALL.

By John Gatcombe.

In continuation of the series already contributed to 'The Zoologist,' I send the following notes, which I have jotted down during the present year, in the hope that they may prove of interest to ornithologists.

On January 12th an immense flock of Lapwings crossed Plymouth Sound from the direction of the harbour, and I counted more than a hundred of these birds in one of our markets. Indeed, I never knew them to be so plentiful. Many Grey Plovers were also to be seen. By the 20th Herring Gulls hcd assumed their full breeding plumage; and I saw a Waterhen in perfect nuptial dress, with its rich yellow and deep crimson bill and forehead as finely developed as in the height of summer.

On February 1st I examined a Great Spotted Woodpecker, shot by a gentleman at Bickleigh, near Plymouth, and found its stomach filled with a quantity of small white thread-like worms. Another Great Spotted Woodpecker had the stomach filled with kernels of some kind and the skins of a wood-boring caterpillar. On the same day a specimen of *Larus ridibundus* was brought in, having nearly two-thirds of its head already black. On February

4th I saw some Great Black-backed Gulls in perfect breeding plumage; and examined a Peregrine Falcon, killed in the neighbourhood, the stomach of which contained a piece of slate-stone and the white breast-feathers of a Sandpiper or Snipe. It was an immature bird, but had already begun to moult, several bluish grey feathers appearing on the upper parts. By the 18th many of the Black-headed Gulls had assumed the full dark head, whilst others (seemingly adult) might be seen without a trace of it.

A Purple Sandpiper was killed on March 3rd, out of a small flock on the rocks of "Drake's Island," in Plymouth Sound, and I heard from the friend who shot it that its stomach contained minute periwinkles. Although this bird remains on the coasts here until rather late in spring, I have never met with any specimens in breeding plumage, although I have received some in that state from Ireland. On March 11th my friend Mr. H. M. Harrison, who shot the Purple Sandpiper, saw an adult male Smew in the Sound. Adult Smews are rarely seen in this locality, although immature specimens are not unfrequently met with in our markets during severe weather. At this date Razorbills were very plentiful on the coast, and appeared restless as the breeding season approached, often taking wing and flying swiftly for a short distance apparently without any fixed purpose. Lesser Black-backed Gulls in pairs were also numerous, making a great noise preparatory to leaving for their nesting stations. The first Wheatear was seen here on March 12th.

On April 4th I examined a Common Buzzard which had been trapped by a keeper, and found in the stomach a quantity of fur and a large white grub of some beetle. A brood of four young Ravens well fledged were taken in the neighbourhood of Plymouth, and kept alive. On the morning of the 13th I observed an immature Iceland Gull in the Sound; wind S.W., mild and misty; but towards night it blew a strong gale from the N.W., and the next day this Gull made its appearance in the harbour. Rock Pipits might be seen on the coast moving about with drooping wings, apparently having nests in the vicinity. The first Swallows appeared on April 15th; wind E., and rather cold. On the 18th I remarked the Iceland Gull again for the last time; the weather very bright, but the wind strong from the N.W. It was flying directly over my head, and in the bright sunshine the white flight-feathers cf the wings had a very pretty effect, looking almost transparent. In the stomach of an adult male Sheldrake sent from Cornwall I found a quantity of small shells, some fine sand, and a few fragments of *Ulva.* By the 27th most of the Lesser Black-backed Gulls had left for their breeding stations, but many non-breeding birds still remained, as do also a large number of Curlews on the banks of our estuaries. On the 29th a tremendous gale occurred, causing great destruction everywhere amongst the young Rooks.

On May 1st I heard the note of the Whimbrel; and by the 3rd of that month I observed several Swifts high in the air, hawking for insects as late as half-past seven in the evening. Visited the breeding places of the Herring Gulls at Wembury on the 8th, and found several nests with eggs in them, but none with young; and also remarked among the nesting birds a few which had not quite assumed their fully-adult dress, having some of the middle tail-feathers more or less freckled with brown. Many Cormorants and Shags, both in autumn and immature plumage, were to be seen on the rocks below, but no Peregrines nesting (as they had done for many previous years) on the cliffs. A farmer, who had killed a great many, told me that he always shot them when possible, as he and others in the neighbourhood could not afford to lose the pigeons and poultry which they killed. The bills of two Kingfishers examined were covered with earth, as if they had been excavating the river's bank instead of appropriating the hole of a Water Rat. On the 19th a Grey Plover in nearly full summer dress was brought to one of our birdstuffer's, and I found in its stomach a small crab. This bird is rarely found with us so late in spring. A female Kestrel which I examined was in somewhat remarkable plumage, having the appearance of being stained or washed with saffron-yellow. Strange to say, it had apparently been feeding on fish, judging from the quantity of scales I found in its stomach, which, indeed, smelt as strong as that of any sea-bird. The Curlew has been found breeding on Dartmoor, and eggs were taken during this month. A friend of mine—Mr. James, of Plymouth—informed me that when fishing in the Dee a short time previously he had witnessed an interesting episode. On looking up the river he observed what appeared like a bird with *four wings* flying towards him. On its nearer approach he saw that it was a Sparrowhawk which had clutched a Common Sandpiper, and both birds using their wings at the same time produced the strange effect. Startled by his presence, the hawk on seeing him dropped the sandpiper, which, instantly recovering itself, turned and made the best of its way up stream again, closely followed by the hawk. The latter making a sudden dash, down went the sandpiper under water like a stone, leaving the disappointed hawk quite bewildered. After flying round two or three times it went straight off, when the sandpiper rose to the surface a long way above, under the opposite bank.

Whimbrels were not so plentiful as usual in this locality, although I saw some flying up the river as late as the 10th of June.

On July 26th Black-headed Gulls, young and old, were seen in the harbour, the earliest return from their breeding places I ever remember; and on the 28th I observed several Common Sandpipers on the coast, on their return after nesting on the moors.

The last Swifts were noticed on August 11th. On the 21st I visited the River Tamar, and was pleased to see so many Herons, Curlews, Dunlins, and Black-headed Gulls thus early on the mud-flats. The following day I remarked several Dippers and Grey Wagtails on stones and boulders in the River Plym, and found Yellow Wagtails very numerous in the fields and meadows near the town. Oystercatchers also were plentiful. On the 30th I watched a flock of thirteen on the "West Mud" banks of the Tamar.

On September 1st I saw a very beautiful White Wagtail (*Motacilla alba*); the dorsal plumage was very light, and of the purest grey I ever remember to have seen in a bird of this species. On the 18th I took a trip to Brent, and passing the mud-flats of the Laira found them alive with old and young Herring Gulls, and a good sprinkling of Herons and other Waders. On the River Avon, at Brent, too, Dippers and Grey Wagtails were numerous. Many Kingfishers, I am sorry to say, found their way about this date to the birdstuffer's, chiefly young birds of the year. A Water Rail was captured, which had but one wing, and yet was in capital condition. A rudiment of the bone of the missing wing was discernible close to the body, but so smooth and rounded had it become, that if ever the bird had possessed the wing at all it must have been a considerable time before its capture.

ORNITHOLOGICAL NOTES FROM NATAL.

BY MAJORS E. A. BUTLER AND H. W. FEILDEN AND CAPT. S. G. REID.

ADDENDA ET CORRIGENDA.

The following notes are supplementary to those which have already appeared in 'The Zoologist' under the above heading:—

Circus macrurus (Gm.), Pallid Harrier.—This species, alluded to under the head of *Circus pygargus* (L), at p. 168, as being commoner than the last-named, was frequently observed by us, and may fairly be recorded in our list, though not actually obtained.

Aquila pennata, Booted Eagle.—A specimen of this little Eagle, not included in our original list, was brought home recently by Feilden. He obtained it near Newcastle in November, 1881. It is apparently of very rare occurrence in Natal; in fact, we are not aware that it has previously been noted from that colony.

Charadrius asiaticus, Pall.—Feilden brought home another specimen of this Plover, obtained by him at Bennett's Drift Camp, near Newcastle, towards the end of November. He describes the species as numerous at that time, in small bands of three to five or six, feeding on the bare places on the "veldt," near the camp, in company with the Pratincoles.

Euplectes oryx (L.), Red Fink.—At p. 297, the size of the egg of this bird should be ·7 in. × ·55 in.

Vidua principalis (L.), Dominican Widow-bird.—Owing to an unfortunate oversight, the notice of this bird appears twice, on pp. 297 and 299. The first of these should be erased altogether.

Falco biarmicus, Temm., South African Lanner.—At p. 170, in the sentence commencing "Butler noticed a Lanner," &c., read "Butler noticed this Lanner," &c.

OCCASIONAL NOTES.

SOUTH-AFRICAN EAGLE OWL IN IRELAND.—In 'The Zoologist' for 1881 (pp. 262, 308) I described an Owl from the collection of Dr. Burkitt, of Waterford, which I then believed to be the Virginian Horned Owl. I have since received a letter from my friend Mr. More, Curator of the Natural History Museum, Dublin, giving the result of his examination of this bird, which Dr. Burkitt, at my request, had lent him for the purpose.

Mr. More writes:—"I have carefully examined Dr. Burkitt's large Owl, and I find that it is an African species, *viz.* the Spotted Eagle Owl, *Bubo maculosus*, Vieill., a bird which Mr. Layard describes as 'the commonest Owl in South Africa,' and Mr. Sharpe, in the British Museum Catalogue of Birds, gives for its range 'The whole of South Africa, as high as the Zambesi on the east coast and to Benguela on the west.' To make quite sure of the name, I lately took the bird with me to the British Museum, and, with the kind assistance of my friend Mr. Sharpe, compared it with African specimens, so that no doubt can remain as to its correct identification. I hope you will be able to obtain from Dr. Burkitt the full particulars of its capture and history." Having returned the bird to Dr. Burkitt, with a request for some information concerning its capture, he wrote to me as follows:—"This Owl lay almost unnoticed, and consequently unrecorded, for several years in my collection of native birds, as you are aware, until brought to light by yourself; for happening, at the time it came into my possession, unfortunately, to be very fully occupied with other matters, and not being aware of its rarity, I took but scant notice of this bird, merely inserting the locality of capture, the name of donor, now several years dead, skinning, preserving, mounting, and placing it amongst my Irish birds, as you discovered it. This bird, when presented to me by the late John Dobbyn, Esq., of Woodlands, Co. Waterford, 27th January, 1851, was apparently some days dead, and struck me at the time as having been a good deal handled, but was brought to me in the flesh, and skinned, mounted, &c., by my own hands. Mr. Dobbyn informed me that he had shot it in Bellake plantations (since nearly all cut down) in the vicinity of Wood-town, Co. Waterford." We are thus indebted to Dr. Burkitt (who has collected and stuffed native birds in Waterford for over fifty years) for the addition to the British fauna of three species, the Spotted Eagle Owl, the Hawk Owl, and the Gold-vented Thrush. The two last-named, having come to the knowledge of Yarrell, found a place in his 'History of British Birds,' while the first-named, with the same claims to recognition, has until now remained unnoticed. That a straggler from so distant a region should visit Ireland is not more strange than the occurrence, in 1838, of the Gold-vented Thrush, another African species, which Dr. Burkitt also obtained in the flesh in Waterford, both these birds having, singularly enough, occurred in the month of January. Dr. Burkitt's label, affixed to the Owl in 1862, is as follows:—"*Strix Bubo*? Linn.—a nondescript, or is it Eagle Owl?—shot near Bell Lake, Co. Waterford, Jan. 1851. Presented by John Dobbyn, Esq., of Woodlands. Marked this Owl formerly as *Strix Ulula*, or Hawk Owl. R. B. 1862." An entry in Dr. Burkitt's journal, made in 1851, is to the same effect. I may remark that Mr. John Dobbyn, who shot this Owl, was Dr. Burkitt's brother-in-law.—RICHARD J. USSHER (Cappagh, Co. Waterford).

The Black-winged or Japanned Peafowl.—The question whether the so-called *Pavo nigripennis* is distinct from *Pavo cristatus*, or merely a variety of that species (for some time a moot point amongst ornithologists), seems to me to have been pretty well settled by a pair of ordinary Peafowl which bred here in the year 1880. These were both common Peafowl, *Pavo cristatus*, showing no variation in any way; but out of a brood of three, which they hatched in the summer of 1880, one died, or got killed somehow; the two others, one a male and the other a female, lived and are still living. Both these birds have all the characteristics of the so-called *Pavo nigripennis*, the male bird having the dark wings and thighs which distinguish *Pavo nigripennis* from *Pavo cristatus*, and the hen the white, or nearly white, plumage of the hen of *Pavo nigripennis*. Messrs. Hume and Marshall, in their 'Birds of India' (vol. i., p. 89), allude to this subject as follows:—"Dr. King showed me a skin of a white specimen (female) that had been shot in the wilds of Eastern Dún, which precisely resembled the bird that Mr. Elliot gives as the female of another variety commonly known as the Japanned Peacock, *Pavo nigripennis*, Sclater. This latter variety has never been met with except in captivity. In *P. nigripennis* the whole of the scapulars and wing-coverts (which in the common Peacock are cream-colour with blackish markings) are black with narrow green edgings, which towards the carpal joint become bluish; the metallic-green of the back is of a more golden tint, and the thighs are black instead of being pale drab, as in *Pavo cristatus*. Some people maintain that this is a distinct species, of which the habitat is yet unknown; others consider it merely a variety which has arisen in captivity in Europe." That *Pavo nigripennis* is only a variety I think there can be no doubt, but whether it is a variety that arises only in captivity in Europe seems to me much more questionable; in fact, the white hen mentioned by Messrs. Hume and Marshall in the above quotation seems to show that wild birds occasionally sport in the same way as those in domestication. If this is so it might partially account for the difficulty of fixing a locality for *Pavo nigripennis*, which seems to have been felt by Messrs. Salvin and Sclater, the editors of the 'Ibis,' for in the volume for 1878, p. 386, in an editorial note, they say, "We may even hope to ascertain before long the locality of *Pavo nigripennis*, a bird found in many of our farmyards, but of which the original *sedes* is a problem yet unsolved." Mr. Sclater, however, seems to think he has solved the problem, for in his 'List of Vertebrated Animals now or lately living in the Gardens of the Zoological Society,' edition of 1879, he fixes Cochin China as the habitat of *Pavo nigripennis*. It certainly seems to me, however, that if in domestication *Pavo nigripennis* appears as only a variety of *Pavo cristatus*, and a pair, male and female, may, as in the case of my birds, be the produce of a pair of common Peafowl, and of the same brood, that *Pavo nigripennis* may suddenly crop up anywhere throughout the whole geographical range of *Pavo cristatus;* and within these limits no exact locality could be fixed, even if it were desirable, which it does not appear to be, for if the so-called Japanned or Black-winged Peacock is only a variety, Mr. Sclater's name would become a synonym of *Pavo cristatus,* or at most it could only be spoken of, whether wild or domesticated, as *Pavo cristatus* var. *nigripennis.* I may add that the female of my *Pavo nigripennis* hatched a small brood this year, but, owing no doubt to the very damp summer, only one is now alive; this one shows no difference whatever to the young of the same age of *Pavo cristatus,* although the mother did so even at a much earlier age, in fact almost from the down; which of the two males—the common or the Black-winged Peacock—is the father of the present young one, I am unable to say. I have trespassed considerably, I am afraid, on your space, but this production of a pair of Black-winged Peafowl from a pair of Common Peafowl seems to me worthy of mention, and I should have sent you a note of it before, only I waited till the male bird had developed his fully adult plumage, which he only did (especially his train) after this last moult.—CECIL SMITH (Bishop's Lydeard, Taunton).

[In reply to these observations, Mr. Sclater remarks:—"I have now reason to believe that the supposed locality of the Black-winged Pea-fowl (Cochin China), given in the 'List of Animals in the Zoological Society's Gardens,' was based upon incorrect or at all events uncertain information. Yet, in spite of the new evidence afforded by Mr. Cecil Smith, I am still of opinion that *Pavo nigripennis* does occur *somewhere* in a wild state, and that its true *patria* will yet be discovered."—ED.]

OSPREY NEAR WORTHING.—On October 20th an Osprey was shot on the sea-beach in the parish of Ferring, near Worthing. As I happened to be driving through the village, the bird was shown to me, and I bought it of the lad who had just brought it up from the coast. It appears to be an adult male. Weight, 4 lbs.; length, 22½ in.; expanse of wings, about 5 ft. 3 in.—SEXTUS VERNON CLARK (Angmering).

COMMON CRANE IN LINCOLNSHIRE.—An immature specimen of the Common Crane, *Grus cinerea,* was shot at Herringhill, near Spalding, on the 25th of October last. It is a bird of the year, and was seen about the neighbourhood several days before it was killed.—A. THOMSON.

POMATORHINE SKUA IN SUSSEX.—A young male Pomatorhine Skua was shot on the floods over Pevensey Level, on the 10th November, by Mr Marshall, of Newbridge, who has kindly presented it to me.—H. NICHOLLS (Hailsham).

THE GADWALL IN RADNORSHIRE.—I am much obliged to Mr. H. N. Ridley for his remarks (p. 431) on the occurrence of this bird at Llandilo, Aberdw, Radnorshire. I know the locality well, and the little flock he saw may possibly have come from the large pool referred to, this being carefully preserved and only occasionally shot over. A friend of mine who shoots round this pool every year tells me that the Tufted Duck, Scaup, and Pochard are plentiful on it from the end of October to the beginning of February; but he has never yet mentioned the Gadwall, and I have therefore come to the conclusion that the small flock seen by Mr. Ridley were accidental visitors, possibly settling there as a resting-place in their flight up the Wye, the hill here being high above the river, and the small pool alluded to being so very limited in extent, without cover of any kind, that no water-bird would be in the habit of resorting to it. Still the fact of their being there at all is most interesting. In my list of the "Birds of Breconshire," as it is the first yet published in this county, I have been particularly careful not to insert the names of any birds except those which have actually occurred in the county, or on its borders, and I have never even heard of the Gadwall here. I think, however, that its occurrence within half a mile of the edge of our county will justify my inserting it. As to the Hawfinch, I think there can be no question as to its extreme rarity here. During a residence of eighteen years I have never seen it, and its large size and bold bearing renders it so conspicuous that it would be almost impossible to overlook it. Brecon, however, is much colder and much less wooded than the adjoining county of Hereford, and in places very much cut off from the same by the Black Mountains.—E. CAMBRIDGE PHILLIPS (The Elms, Brecon).

GREATER SHEARWATER IN LINCOLNSHIRE.—A specimen of the Greater Shearwater, *Puffinus major*, was captured near Spalding, and forwarded to the Gardens of the Zoological Society of London, where it may now be seen in the Eastern Aviary.—A. THOMSON.

[Since this note was in type the bird has died.—ED.]

OSPREY IN LEICESTERSHIRE.—On October 13th the keeper at Saddington Reservoir noticed a large hawk circling and hovering over the pool, every now and then making a rapid stoop towards the water. He was near enough to the bird to notice its colour and markings, and on describing it to me I had no difficulty in recognising it as an Osprey. The same bird apparently has been seen since, as the following note by my friend the Rev. A. Matthews will show. Gumley is only half a mile distant from Saddington Reservoir. Mr. Matthews writes:—"On the 22nd October, at 2 p.m., a fine Osprey passed over the garden at Gumley, at a height of from thirty to forty yards, flying N.W. The bird was in full adult plumage and in fine condition, and was probably, from its large size, a female. I may also add that a bird, supposed to be an Osprey, was observed, on October 18th, soaring in circles at a great elevation over the wood and pool at Gumley, both of which join our garden."—THOMAS MACAULAY (Kibworth).

Errata.—The following errata occur in Mr. Cocks' notes from Spitzbergen:—p. 323, line 11, *for* ten *read* one; p. 330, line 13, *dele* ; after 'boat,' and next line *for* shot *read* shoot; p. 331, nine lines from foot, *for* He *read* We; p. 379, two lines above note, *for* way to the *read* way by the; p. 386, line 13, *for* The sun set straight *read* The sun set to-night; p 417 seven lines from bottom, for *Scynnus* read *Scymnus*.

Natterjack at Aldeburgh.—I do not know whether the Natterjack, *Bufo calamita*, is usually partial to the coast; but I found examples in August last, in warm sunshine, quite close to the beach at Aldeburgh.—H. A. Macpherson (Oxford).

Chelifer Degeerii, *C. Koch*, a Species new to Britain.—Whilst collecting shells and mineralogical specimens on the promontory at North Berwick, Scotland, on September 13th, I procured three specimens of the above-named Pseudoscorpion. Their proximity to the sea was such that at high tide the spray was constantly thrown upon the cracked igneous rock which sheltered them, and which in stormy weather, and during neap and spring tides, is submerged; though I doubt not the Chelifers and many other minute terrestrial forms located in the innumerable cracks and crevices of these rocks will be dry, owing to the difficulty of displacement of air by water from such narrow fissures as they lodge in. Associated with them in the loose earth that sparingly filled the crevices were *Poduræ* and larval *Onisci*. I kept the Chelifers alive for above a week. Whilst seeking food they ran backwards and forwards with equal celerity, carrying the maxillary palpi or chelæ (hence the name) elevated about one-third above the head; the dactylopodite and propodite held apart. They seized almost everything they came near, especially each other's chelæ. Perhaps the most interesting feature noticed was the quick and indiscriminate use of both nipping organs in conveying food to the mouth. The position, elevation, sensitiveness, of the chelæ betokened a character homologous to antennæ. On submitting the specimens to the Rev. O. P. Cambridge, who is collecting material for a monograph on British specimens of this group,—and in which will be given figures and descriptions of this new addition to our fauna,—I learned they were *Chelifer Degeerii*, C. Koch. — Henry Crowther (Beeston Hill, Leeds).

Death of Professor Reinhardt.—We regret to have to announce the death, at the age of sixty-six years, of Prof. Reinhardt, Inspector of the Zoological Museum of the University of Copenhagen. His name is of course well known to English ornithologists through his papers in 'The Ibis' and the 'Proceedings of the Zoological Society,' but his most important contributions to Zoology are to be found in the scientific periodicals of Copenhagen.

Death of Dr. Crisp.—The death is also announced of Dr. Crisp at his residence in Chelsea. The deceased gentleman was born at Rendlesham, in Suffolk, in 1806. He studied for the medical profession at St. Thomas's Hospital and Paris, and has been a great contributor to medical literature. He was a Fellow of the Medical Society of London, a Member of the Royal College of Surgeons, and a Doctor of Medicine of St. Andrew's. At one time he was a frequent contributor to the 'Proceedings of the Zoological Society,' wherein will be found numerous original papers from his pen.

PROCEEDINGS OF SCIENTIFIC SOCIETIES.

Linnean Society of London.

November 2, 1882.—Sir J. Lubbock, Bart., M.P., F.R.S., President, in the chair.

Prof. J. C. Ewart, Mr. G. Fry, and Lord Walsingham were elected Fellows of the Society.

Mr. A. P. W. Thomas drew attention to a series of specimens under the microscope and diagrams, illustrative of the life-history of the liver-fluke (*Fasciola hepatica*). His experiments showed that the embryos of the fluke, as free *Cercariæ*, burrow into and develop within the body of *Limnæus truncatulus*, and thereafter pass with the herbage into the stomach and ultimately liver of the sheep. Salt added to the sheep's diet is found to act as a prophylactic.

Mr. F. Crisp exhibited specimens sent by Drs. Loew and Bokormy, of Munich, illustrating the discovery they claim to have made of a specific chemical difference between living and dead protoplasm, *viz.*, the power of the living organism to reduce silver salts in a very dilute alkaline solution. Thus, for instance, living *Spirogyra* placed in the solution reduces the silver salt and converts the contents of the cell into a black opaque mass, while if first killed, no such action takes place, but the spiral arrangement of the chlorophyll threads remains perfectly distinct.

Prof. E. Ray Lankester exhibited and made remarks on a fine series of marine objects dredged by him last summer in the Fjords of Norway, the Corals and Sponges being particularly interesting. Of these may be mentioned a branch of *Paragorgia arborea*, three feet across; specimens of the same in spirit, as also of *Lophohelia prolifera*, *Amphihelia ramea*, *Stylaster norvegicus*, *Primnoa lepadifera*, and *Paramuricia ramosa*, both dried and also with the polyps preserved in spirits. The collection also included some very large new forms of *Foraminifera*, specimens of *Rhizocrinus lofotensis*, of the aberrant Mollusca *Neomenia* and *Chætoderma*, and of *Rhabdopleura normani*, besides a large series of Sponges and Asteroidea.

Dr. F. Day showed examples of Trout, namely, of the American Brook Trout, reared in an Aquarium, another reared at Howiestown, near Stirling, and a hybrid between the American and Common Trout, these being in illustration of his paper "On Variation in Form and Hybridism in *Salmo fontinalis*."

Sir John Lubbock then read his tenth communication "On the Habits of Ants, Bees, and Wasps." Two Queen Ants have lived with him since 1874, therefore are eight years old, and they laid eggs last summer. His oldest workers are seven years old. Dr. Hermann Müller's objections to the author's experiments on the colour sense of bees had been anticipated. The preference of bees for blue is strongly indicated by Müller's own observations on flowers. Sir John also now records further experiments with reference to the power of hearing. Some bees were trained to come to honey, which was placed on a musical box on the lawn close to a window. The musical box was kept going for several hours a day for a fortnight. It was then brought into the house, and placed out of sight, but at the open window, and only about seven yards from where it had been before. The bees, however, did not find the honey, though when it was once shown them they came to it readily enough. Other experiments with a microphone were without results. Bees are popularly—and have been ever since the time of Aristotle—supposed to be influenced by clanging kettles, &c. Experienced apiarists are now disposed to doubt whether the noise has really any effect; but Sir John suggests it as possible that the bees hear only the higher overtones at the verge of or beyond our range of human hearing. He timed a bee and a wasp, for each of which he provided a store of honey, and he found that the wasp began earlier in the morning, at 4 a.m., and worked on later in the evening, till 8 p.m. It might be that the wasps are less sensitive to cold. Moreover, though the bee's proboscis is admirably adapted to extract honey from tubular flowers, the wasp, on the other hand, appears able to swallow it more radidly.—J. Murie.

Zoological Society of London.

November 14, 1882.—Prof. W. H. Flower, LL.D., F.R.S., President, in the chair.

The Secretary read a report on the additions that had been made to the Society's Menagerie during the months of June, July, August, September, and October, 1882, and called attention to certain interesting accessions, which had been received during that period. Amongst these were specially noted examples of the New Caledonian Parrakeet, *Nymphicus uvæensis*, presented by Mr. E. L. Layard; a Heloderm Lizard, *Heloderma horridum*, presented by Sir John Lubbock, Bart.; a pair of young River Hogs, *Potamochærus africanus*, presented by Mr. John Dunn and Col. Bowker; and an example of an apparently new species of Dog, supposed to have been received from the Upper Amazons, and proposed to be called *Canis microtis*, obtained by purchase.

A letter was read from Mr. E. L. Layard respecting a specimen of *Schœnicola platyura* received by the British Museum from the late Mr. Cuming.

Prof. F. Jeffrey Bell exhibited some examples of *Limnæus truncatulus*, lately discovered to be the chief host of the larvæ of the Sheep-fluke.

Prof. Flower exhibited and made remarks upon the skull of a young Chimpanzee from Lado, in the Soudan, sent to him by Dr. Emin Bey, which exhibited the deformity called "Acrocephaly," associated with the premature closure of the fronto-parietal structure.

Mr. H. E. Dresser exhibited and made remarks on specimens of *Melittophagus Boehmi*, Reichenow, and *Mergus Dresseri*, Shelley, which he showed to be identical.

A communication was read from Mr. W. A. Forbes containing some supplementary notes on the anatomy of the Chinese Water-deer, *Hydropotes inermis*.

A communication was read from the Rev. L. Baron, containing notes on the habits of the Aye-Aye of Madagascar in its native state.

Mr. G. E. Dobson read a paper on the natural position of the family *Dipodidæ*, which he maintained to be with the Hystricine, and not, as generally supposed, with the Murine Rodents, and to be most nearly allied to the *Chinchillidæ*.

Prof. F. Jeffrey Bell read a paper on the genus *Psolus*, relating its literary history, and giving an enumeration of the described species. Attention was directed to the extensive distribution of *P. Fabricii*, and to the variations during growth. After the description of other known forms, two new species (*P. Peronii* and *P. ambulata*) were described; for the latter a new subgenus was suggested, and the genus itself was divided into three subgeneric groups.

A second paper from Prof. Bell contained an account of a Crinoid from the Straits of Magellan, obtained by Dr. Coppinger during the voyage of H.M.S. 'Alert,' which was referred to a new variety of *Antedon Eschrichti* of the Arctic Seas.

Mr. W. H. Neale read some notes on the Natural History of Franz-Josef Land, as observed in 1881-82 during the stay of the 'Eira' expedition in that land.

Dr. Gwyn Jeffreys read the fifth part of his list of the Mollusca procured during the expeditions of H.M.S. 'Lightning' and 'Porcupine.' This part, which embraced the species from the *Solenoconchia* to the *Calyptræidæ*, comprised sixty-nine species, of which twenty-two were now for the first time described or figured. The geographical, hydrographical, and geological range of all these species was given, as in his former papers; and the author especially noticed the points of agreement between the deep-water Mollusca from the American and European expeditions.—P. L. Sclater, *Secretary*.

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